No. 200400128

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Rutgers, The State University of New Jersey

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, RED

'Lustrous'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of March, in the year two thousand and seven.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

BUREAU OF ENGRAVING AND PRINTING

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Rutgers, The State University of New Jersey ~~c/o Dr. William Meyer~~ (ST:1/16/2007)

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
TL2

3. VARIETY NAME
Lustrous

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Foran Hall
Plant Biology & Pathology Dept.
59 Dudley Road
New Brunswick, NJ
08901

5. TELEPHONE *(Include area code)*
(732) 932-9711

6. FAX *(Include area code)*
(732) 932-9441

FOR OFFICIAL USE ONLY

PVPO NUMBER
#200400128

FILING DATE
3/1/2004

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Government Institution

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Dr. William Meyer
c/o Rutgers University
Foran Hall
Plant Biology & Pathology Dept.
New Brunswick, NJ
08901

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3,652.00
DATE 3/1/2004

CERTIFICATION FEE:
$ 768.00
DATE 2/13/2007

11. TELEPHONE *(Include area code)*
(732) 932-9711

12. FAX *(Include area code)*
(732) 932-9441

13. E-MAIL

14. CROP KIND *(Common Name)*
Strong Creeping Red Fescue

15. GENUS AND SPECIES NAME OF CROP
Festuca rubra ssp. rubra

16. FAMILY NAME *(Botanical)*
Poaceae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☑ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*
☐ YES ☑ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)
- a. ☑ Exhibit A. Origin and Breeding History of the Variety
- b. ☑ Exhibit B. Statement of Distinctness
- c. ☑ Exhibit C. Objective Description of Variety
- d. ☑ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. ☑ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☑ YES ☐ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☑ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☑ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☑ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
NAME *(Please print or type)*		NAME *(Please print or type)*	
CAPACITY OR TITLE Daniel Rossi Sr. Assoc. Director NJAES	DATE 12/20/06	CAPACITY OR TITLE	DATE

(See reverse for instructions and information collection burden statement)

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002

Exhibit A:

Origin and Breeding History

'Lustrous'
<TL2>Strong Creeping Red Fescue
(BT: 1/16/2007)

1. 'Lustrous'
<TL2>strong creeping red fescue (*Festuca rubra* L. subsp. *rubra*) (BT: 1/16/2007) is a turf-type cultivar selected for leaf spot resistance from the progenies of 30 clones. Single-plot progenies of 707 clones selected from the Rutgers turfgrass breeding program were seeded in individual turf plots at North Brunswick and Adelphia, New Jersey during the late summers of 1992 and 1993. A total of 1020 plants were selected from the best performing progenies following a period of summer stress in August, 1994. Selection was based on turf performance and appearance of the plots at the time of selection. Selected plants were established in green house flats prior to their transfer to an isolated spaced-plant nursery in September, 1994. Two nurseries consisting of 1020 plants total were established in the spring of 1995 from the same best performing turf plots as above.

Plants selected from old turfs were subjected to evaluation in spaced-plant nurseries, frequently mowed turf trials, and greenhouse test for resistance to powdery mildew (caused by *Erysiphe graminis* DC). Progenies from intercrossing the best performing selections were then subjected to many cycles of recurrent phenotypic selection with each cycle followed by single-plot progeny tests in closely mowed turf trials. Tillers were subsequently selected from the best performing turf plots to initiate additional cycles of selection. Greenhouse facilities were also used to select disease resistant, lower-growing plants with abundant tillers, and a rich, bright, dark green color.

The most promising plants were identified by their persistence, appearance and performance in spaced-plant nurseries, mowed clonal evaluation tests, and single-plant progeny trials under turf maintenance. Intercrosses of the best performing plants were subjected to varying cycles of phenotypic and genotypic selection depending on their date

of collection. New sources of germplasm were added to the breeding program as it became available from the continuing collection program. Each cycle of selection showed continued progress in producing lower-growing, darker green, finer leaf texture, attractive plants with improved turf performance scores.

Following a cycle of selection for low growth habit, fine leaf texture and dark green color under a mowed spaced-plant tiller plot evaluation trial established in 1998 containing 19,200 plants, 116 plants were selected from these tiller plot evaluation trials for leaf spot tolerance and early maturity, these plants were moved in April and allowed to develop seed heads in an isolated crossing block called 'TLS'. Seed from these plants was germinated in greenhouse flats and screened for high shoot density, low growth habit and dark green color to approximately 25%. These 1500 plants were used to establish a nursery in the fall of 1999 at Adelphia, NJ. Fifty-three plants were selected from this nursery for bright dark green color, low growth habit, freedom from leaf spot disease and early maturity and moved to an isolated crossing block in the spring of 2000. Forty-six plants from 3 different lines were harvested from the crossing block based on high seed yield, good floret fertility and freedom from disease. One turf plot of each line was established at Adelphia in the fall of 2000 and 1 gram of each was sent to Advanta Seeds Pacific for increase and further nursery evaluation. Ninety-one percent of the harvested plants trace their maternal origin to a plant found in the Rose City Cemetery, Portland, OR. This plant contained a Neotyphodium endophyte currently referred to as the Rose City endophyte. One hundred percent of the parental germplasm of 'Lustrous' (PI#: 1/16/2006) traces its origin to plants selected from old turfs of the United Stated during the period from 1962 through 1990 by turfgrass scientists at the New Jersey Agricultural Experiment Station.

In the fall of 2000 a seed increase block containing 60 plants of 37 progeny lines was established in Albany, Oregon. Due to poor turf performance 12 progeny lines were removed before anthesis. In 2001 negative mass selection was used and 2.0 % of the plants were rogued from the population. The remaining plants were harvested in bulk and the seed was used to establish a morphological nursery for Plant Variety Protection (PVP) measurements.

2. Breeder Seed Maintenance:

A breeder seed multiplication was planted in isolation in 2000 in Albany, Oregon. Seed was harvested in bulk in 2001 and is maintained in cold storage. Seed propagation is limited to three generations, one each of foundation, registered, and certified.

3. Stability and Uniformity:

'Lustrous' <TL2> has been a stable uniform cultivar over 2 generations. (BT: 1/16/2007) No off-type or variant plants have been observed during the multiplication or reproduction. During the breeder seed multiplication 2.0 % of the plants were removed. These types were not observed during the subsequent generations. Turf plots of 'Lustrous' <TL2> have been uniform and stable. (BT: 1/16/2007)

Exhibit B:

Novelty Statement of 'Lustrous' <TL2> Strong Creeping Red Fescue
(BT: 1/16/2007)

The following summary outlines the distinctive characteristics of TL2. The novelty of TL2 is based on the unique combination of these characteristics. TL2 is most similar to Shademaster, but may be differentiated by using the following criteria:

1) 'Lustrous' <TL2> has a shorter mature plant height compared to Shademaster (tables 1A, 1B).
(BT: 1/16/2007)

2) The flag leaf morphological characteristics; height, length, sheath length, and internode length of TL2 are significantly shorter compared to Shademaster (tables 1A, 1B).

3) The sheath length of the leaf blade of TL2 is shorter than Shademaster (tables 1A, 1B).

4) TL2 has a shorter lemma length compared to Shademaster (tables 2A, 2B).

5) TL2 has a reduced awn and glume length compared to Shademaster (tables 2A, 2B)

6) The length of the spikelet for TL2 is shorter compared to Shademaster (tables 2A, 2B).

7) TL2 expresses a higher frequency of plants with an erect growth habit compared to Shademaster (tables 3A, 3B).

8) TL2 exhibits a lower percentage of nodding panicles compared to Shademaster (tables 3A, 3B).

9) The frequency of two or less branches on the lower most whorl is higher for TL2 compared to Shademaster (tables 3A, 3B).

10) TL2 produces fewer plants with purple pigment in the glume than Shademaster (tables 4A, 4B).

11) 'Lustrous' <TL2> has a higher seed weight than Shademaster (tables 5A, 5B).
(BT: 1/16/2007)

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURE MARKETING SERVICE
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Fine Leaved Fescues)

OBJECTIVE DESCRIPTION OF VARIETY
FINE LEAVED FESCUES
(Festuca spp.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME.
(BT: 1/6/2006) Rutgers, The State University of New Jersey	TL2	Lustrous

ADDRESS *(Street and No. or R.F.D. No., City, State, Zip Code)*
Foran Hall
Plant Biology & Pathology Dept.
59 Dudley Road; New Brunswick, NJ 08901

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PVPO NUMBER #200400128

Place the appropriate number that describes the varietal character of this variety in the boxes below. Use leading zeroes when necessary: (e.g., 0 8 or 0 9). Characteristics described including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticulture Society or any recognized color fan may be used to determine plant colors; designate system used: _____

_____ Describe location of test area, conditions and number of plants used: _____

See section 16, page 4.

1. SPECIES: (With comparison varieties for use below - use varieties within species of application variety)

____	1 = *F. rubra ssp. commutata* (Chewings)	11 = Cascade 14 = Banner	12 = Highlight 15 = Barfalla	13 = Jamestown
____	2 = *F. rubra ssp. litoralis* (Creeping Red)	21 = Dawson 24 = Pennlawn	22 = Starlight	23 = Merlin
31	3 = *F. rubra ssp rubra* (Spreading Red)	31 = Boreal 34 = Ensylva		
____	4 = *F. ovina* (Sheep)	41 = Covar		
____	5 = *F. longifolia* (Hard)	51 = Durar	52 = Biljart (C-26)	53 = Scaldis
____	6 = *F. tenuifolia* (Fine-Leaved Sheep)	61 = Panda	62 = Barok	
____	7 = Other *(Specify)* F._____			

2. CYTOLOGY:
Chromosome Number 4 Ploidy 1 = diploid 2 = tetraploid 3 = hexaploid 4 = octoploid

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)
2 Northeast 0 Southeast 0 North Central 2 Pacific N.W. ____ Other *(Specify)* _____

4. MATURITY: Date First Headed (panicle emergence) Location(s) of Trial(s) _____
2 Maturity Class:
1 = Very Early (Covar) 2 = Early (Highlight) 3 = Medium Early (Boreal, Dawson)
4 = Medium Late (Cascade, Ruby) 5 = Late (Jamestown, Agram) 6 = Very Late

Date Headed 17. 00 days after March 1.

8.33	Days earlier than	31
1	Maturity same as	1
	Days later than	1

} Comparison Variety

Plant Height: (At maturity; to top of panicle; Average of 10 culms)

439.30	mm height	
144.00	mm shorter than	31
	Height same as	____
	mm taller than	1

} Comparison Variety

6. GROWTH HABIT: (Mature)
2 1 = Erect (Ruby) 2 = Semi-erect (Highlight) 3 = Prostrate (Silvana)

7. RHIZOMES:
1 1 mm Length 1 mm Width 1 mm Internode length
2 1 = Absent (Highlight) 2 = Weakly Creeping (Dawson) 3 = Strongly Creeping (Boreal)
4 = Very Strongly Creeping (Fortress)

200400128

8. LEAF BLADE:

4 Color: 1 = Light Green (Strarlight) 2 = Medium Light Green (Highlight) 3 = Medium Dark Green (Ruby, Agram) 4 = Dark Green (Jamestown, Manoir) 5 = Bluegreen (Saphir) 6 = Graygreen (Scaldis) 7 = Other (*Specify*) _____

1 Glaucosity (Sowing Year): 1 = Absent (Koket) 2 = Present (Vendrome)

1 Anthocyanin: 1 = Absent 2 = Present 2 (5%) Hairs (Basal) 1 = Absent 2 = Present

1 Margins: 1 = Smooth 2 = Semi-rough 3 = Rough

1 Margin folding (closure): 1 = Rolled inward (closed-Highlight) 2 = Flat (open-Jamestown, Engina)

3 Width class: 1 = Very Fine (Agram, Frida) 2 = Fine (Jamestown, Highlight, Banner, Dawson) 3 = Medium Fine (Fortress, Ruby, Scaldis) 4 = Medium Coarse (Engina)

165.30 mm Length (flag leaf)

92.40 mm Shorter than 31

Blade length same as . . . . . |

| mm Longer than . . . . . |

} Comparison Variety

3.67 mm Width (flag leaf)

▲ | mm Narrower than . . . . . |

Blade width same as 31

▲ | mm Wider than . . . . . |

} Comparison Variety

9. LEAF SHEATH:

____ Anthocyanin (seedling): 1 = Absent (Highlight) 2 = Present (Jamestown, Fortress, Marga)

2 Auricle Hairiness: 1 = Absent 2 = Present

1 Margins: 1 = Open (Highlight) 2 = Closed (Jamestown)

10. PANICLE (Mature plant):

2 Shape: 1 = Narrow-tapering 2 = Ovate 3 = Oblong 4 = Other (*Specify*) _____

1 Type: 1 = Open 2 = Intermediate 3 = Compact

1 Orientation: 1 = Erect 2 = Nodding

1 Branch Pubescence: 1 = Glabrous 2 = Pubescent

1 Anther Color:

1 Glume Color (At 50% flowering):

} 1 = Yellowish Green 2 = Green 3 = Bluish Green 4 = Purplish 5 = Reddish 6 = Other (*Specify*) _____

385.30 mm Length

114.00 mm Shorter than 31

Panicle length same as . . . . ____

| mm Longer than . . . . . |

} Comparison Variety

11. PALEA:

2 Hairs (On keels or margins): 1 = Absent (Banner) 2 = (Agram, Scaldis, Olds) = Short (BT: 8/8/06) 3 = Long (Ranier, Fortress, Jamestown)

12. LEMMA (Mature):

2 Hairs: 1 = Absent (Jamestown) 2 = Several 3 = Many (Highlight)

5.59 mm Lemma Length

1.29 mm Shorter than 31

Lemma length same as . . . . . | } Comparison Variety

____ mm Longer than . . . . . ____

0.94 mm Lemma Width

|| mm Narrower than . . . . . |

Lemma width same as . . . . . 31 } Comparison Variety

|| mm Wider than . . . . . |

2 Awns: 1 = Absent 2 = Present

1.45 mm Awn Length

0.40 mm Shorter than 31

Awn length same as . . . . . | } Comparison Variety

| mm Longer than . . . . . |

13. SEED (With lemma & palea):

4 Size Class (g/1000 seed):
1 = <.9g (Biljart, Dawson) 2 = .91-< 1.1g (Jamestown, Highlight)
3 = 1.1 - 1.3 g (Fortress, Novorubra) 4 = > 1.3g (Boreal, Golfrood)

1,513.00 mg per 1000 seed

____ mg per 1000 seed less than . . . . . | } Comparison Variety

Seed Weight same as 31

____ mg per 1000 more than . . . . . ____

14. DISEASE, INSECT, AND NEMATODE REACTION (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

0	Melting-out *Drechslera poae* (*Helminthosporium vagans*)	0	Stripe rust *P. striiformis*
0	Leaf spot *D. siccans*	0	Leaf rust *P. poae-nemoralis*
0	Net blotch *D.* dictyoides	0	*P. crandalli*
0	Leaf spot *Bipolaris sorkiniana*	0	Pythium Blight *Pythium ultimum*
0	Brown patch *Rhizoctonia solani*	0	Red thread *Corticum fusciforme*
0	Powdery Mildew *Erysiphe graminis*	0	Dollar spot *Sclerotinia homoeocarpa*
0	Stripe smut *Ustilago striiformis*	0	Insect _____
0	F. Patch, Pink snow-mold *Fusarium nivale*	0	Nematode _____
0	Fusarium blight *F. tricinctum, F. roseum*	0	Other _____
0	Gray snow mold *Typhula iotana*	0	Other _____
0	Stem rust *Puccinia graminis*	0	Other _____

15. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics indicate Degree of Resemblance by placing the column marked, D. R., 1 of the following numbers:

1 = Application variety is less than comparison variety. 2 = Same As
3 = More than, better, greater, darker, more disease resistant, etc.

CHARACTER	VARIETY	D. R.	CHARACTER	VARIETY	D.R.
Rhizome Length	Boreal	2	Growth Habit	Boreal	3
Leaf Width	Boreal	2	Leaf Color	Boreal	3
Panicle Color	Boreal	3	Panicle Shape	Boreal	3
Winter Color	Boreal	2	Cold Injury	Boreal	2
Shade Tolerance	Boreal	2	Heat	Boreal	2
Drought	Boreal	2	Disease*	Boreal	2

* *Specify each disease evaluated.*

16. ADDITIONAL DESCRIPTION: (Use additional sheets as required)
Describe all characteristics that cannot be adequately described in the form above in Exhibit D. Comparative varieties should be used as may be appropriate, such as for disease. Append all comparative trial and evaluation data, including measured characters, environmental, and disease test.

A morphological nursery designated 01PVPFRR was established in September 2001, in Albany, Oregon. Experimental design consisted of 3 entries; 3 replications per entry; 20 plants per replication; for a total of 60 plants per entry. Boreal and Shademaster were used as standards. Plants were established on 2.5 foot centers with a skip row between replications and between entries.

The nursery received 30 pounds of nitrogen per acre rate following establishment and 50 pounds of nitrogen per acre per year in 2002 and 2003. The fertilizer source was 15 - 15 - 15 and was applied as a split application with ½ applied in the spring and ½ in the autumn. The nursery was sprayed twice each spring, 3 weeks between applications, with Tilt (2oz/acre rate), to prevent stem rust. One pound of Karmex per acre rate was applied during the late summer to prevent emergence of volunteer seedlings.

Data was analyzed using analysis of variance for a randomized complete block design. Means were calculated for each replication and then analyzed.

Exhibit D:

Additional Description

'Lustrous'
<TL2>Strong Creeping Red Fescue
(BT: 1/16/2007)

'Lustrous'
<TL2>has improved characteristics over current cultivars, such as Shademaster and Boreal. (BT: 1/16/2007)
It has an early maturity, with a heading date and anthesis date earlier than Boreal (tables 1A, 1B). The mature plant height of TL2 is reduced compared to Shademaster and Boreal (tables 11A, 1B). TL2 has a shorter panicle than Shademaster and Boreal (tables 1A, 1B). The flag leaf characteristics length, height, sheath length and internode length are all significantly shorter for TL2 compared to Shademaster and Boreal (tables 1A, 1B). TL2 has a shorter lemma length and awn length, as well as glume length compared to Shademaster and Boreal (tables 2A, 2B). TL2 has a shorter spikelet than Shademaster and Boreal (tables 2A, 2B). The length of the longest whorl and the distance between the lower most whorls is less for TL2 compared to Shademaster and Boreal (tables 2A, 2B, illus. 1). The distance between the lower most whorl and the apex of the panicle is shorter for TL2 then Shademaster and Boreal (tables 2A, 2B, illus. 1).

'Lustrous'
<TL2>may be differentiated from Shademaster and Boreal on several visual characteristics. (BT: 1/16/2007)
The growth habit of TL2 express a lower frequency of erect type plants compared to Boreal (tables 3A, 3B). The panicle characteristic of nodding is less frequent in TL2 compared to Shademaster and Boreal (tables 3A, 3B). TL2 express more narrow panicles than Boreal (tables 3A, 3B). The frequency of two or less branches in the lower most whorl is higher for TL2 compared to Shademaster and Boreal (tables 3A, 3B). Boreal has a higher frequency of pubescence on the panicle branch compared to TL2 (tables 3A, 3B). TL2 produces fewer plants with purple pigment in the glume than Shademaster (tables 4A, 4B). TL2 has a higher seed weight than Shademaster (tables 5A, 5B).

Table 1A 2002 Morphological Data

Cultivar	Heading Date (days after March 1)	Anthesis Date (days after April 1)	Genetic Color	Mature Plant Height (mm)	Plant Width (mm)	Panicle Length (mm)	Flag Leaf Length (mm)	Flag Leaf Width (mm)	Flag Leaf Height (mm)	Flag Leaf Sheath Length (mm)	Flag Leaf Internode Length (mm)	Leaf Blade Length (mm)	Leaf Blade Width (mm)	Leaf Blade Height (mm)	Leaf Sheath Length (mm)
(BT: 1/16/2008) Lustrous <TL27>	17.00	59.33	5.37	439.30	123.30	385.30	165.30	3.67	143.00	93.70	46.00	120.70	3.32	55.00	53.30
Shademaster	18.67	60.67	4.35	543.70	97.70	476.30	213.00	3.25	207.30	138.00	64.00	140.30	3.25	71.70	67.30
Boreal	25.33	63.67	4.72	583.30	134.30	499.30	257.70	3.68	228.00	151.70	68.70	185.30	3.72	96.30	85.30
LSD 5%	3.96	1.83	0.33	27.70	18.40	26.40	22.50	0.54	12.40	7.00	9.70	30.80	0.71	9.90	8.40
C.V.	11.18	1.72	3.95	3.05	8.93	3.34	6.10	8.82	3.70	3.14	9.37	11.88	11.86	7.63	7.03

■ Cultivar under evaluation
■ Significant difference over two years one location.
■ Significant difference over one year one location.
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 1B 2003 Morphological Data

Cultivar	Heading Date (days after March 1)	Anthesis Date (days after April 1)	Genetic Color	Mature Plant Height (mm)	Plant Width (mm)	Panicle Length (mm)	Flag Leaf Length (mm)	Flag Leaf Width (mm)	Flag Leaf Height (mm)	Flag Leaf Sheath Length (mm)	Flag Leaf Internode Length (mm)	Leaf Blade Length (mm)	Leaf Blade Width (mm)	Leaf Blade Height (mm)	Leaf Sheath Length (mm)
(BT: 1/16/2007) Lustrous <TL27>	26.33	51.33	5.62	810.30	289.30	661.00	274.30	3.62	285.70	140.70	96.00	210.00	2.87	115.00	89.00
Shademaster	23.33	51.00	5.33	959.30	263.30	793.00	342.00	3.62	360.30	195.30	134.30	244.30	3.07	124.30	113.30
Boreal	38.00	55.33	5.57	994.30	298.30	799.30	422.70	4.45	386.30	215.70	134.00	298.00	3.67	142.30	124.30
LSD (.05) (BT 8/8/06)	3.80	1.16	0.36	72.60	29.30	74.10	33.10	0.56	34.10	13.70	12.60	26.10	0.62	28.90	13.70
C.V.	7.48	1.27	3.79	4.53	5.94	5.67	5.49	8.30	5.70	4.29	5.94	5.97	11.19	13.04	7.22

■ Cultivar under evaluation
■ Significant difference over two years one location.
■ Significant difference over one year one location.
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

20090128

Table 2A 2002 Laboratory Morphological Data

Cultivar	Lemma Length (mm)	Lemma Width (mm)	Lemma Awn Length (mm)	Glume Length (mm)	Florets per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm)	Number of Spikelets on the Longest Whorl	Spikelets per Panicle	Length of Panicle From Lower Most Whorl to Tip (mm)
(BT: 1/16/07) Lustrous <TL2>	5.59	0.94	1.45	4.51	7.07	12.23	53.90	30.47	7.18	39.33	10.13
Shademaster	6.39	0.95	2.28	5.37	7.07	14.67	65.17	37.57	8.13	42.67	12.83
Boreal	6.88	0.92	2.29	5.62	7.90	16.27	83.63	43.27	10.13	47.33	14.73
(BT: 8/8/06) LSD(0.05)	0.25	0.07	0.42	0.30	0.18	0.37	7.78	3.17	1.19	5.30	1.29
C.V.	2.27	4.33	12.09	3.28	1.44	1.49	6.62	4.90	8.04	7.07	5.89

- Cultivar under evaluation
- Significant difference over two years one location.
- Significant difference over one year one location.

Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 2B 2003 Laboratory Morphological Data

Cultivar	Lemma Length (mm)	Lemma Width (mm)	Lemma Awn Length (mm)	Glume Length (mm)	Florets per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm)	Number of Spikelets on the Longest Whorl	Spikelets per Panicle	Length of Panicle From Lower Most Whorl to Tip (mm)
(BT: 1/16/2007) Lustrous <TL2>	5.88	0.99	1.69	4.51	6.03	11.77	63.63	34.00	8.93	50.67	12.20
Shademaster	6.42	0.97	2.59	5.29	5.73	13.40	75.97	42.80	9.88	51.33	15.43
Boreal	7.16	0.98	2.69	5.78	7.17	16.10	110.07	56.07	11.47	58.33	18.67
(BT: 8/8/06) LSD(0.05)	0.33	0.14	0.17	0.38	0.48	0.63	10.46	4.34	2.71	12.38	1.54
C.V.	2.96	8.48	4.18	4.25	4.32	2.65	7.22	5.63	15.44	13.31	5.73

- Cultivar under evaluation
- Significant difference over two years one location.
- Significant difference over one year one location.

Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

2010-0028

Panicle Type Inflorescence

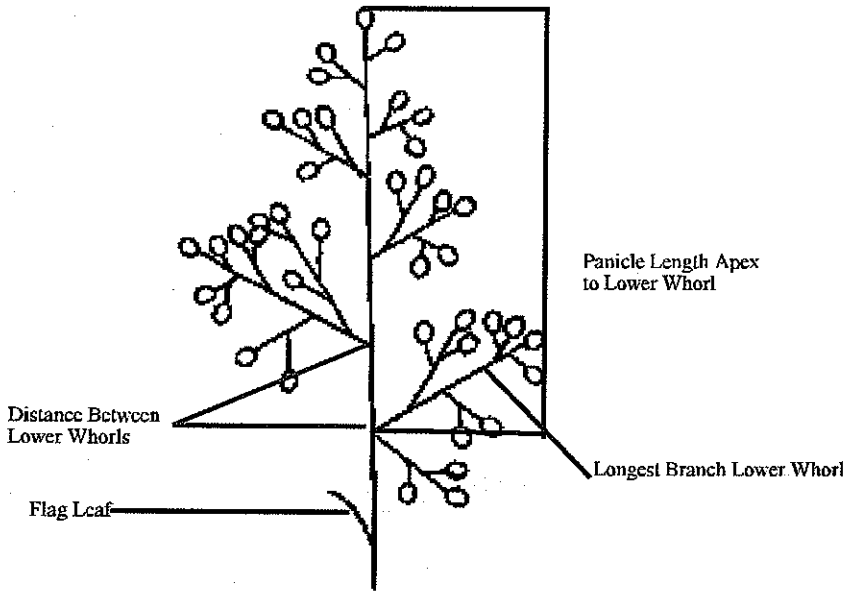

Illustration 1.

Table 3A 2002 Additional Morphological Measurements of the Panicle

Cultivar	Growth Habit at Anthesis % Erect	Growth Habit at Anthesis % Semi-Erect	Growth Habit at Anthesis % Prostrate	Anther Color % Yellow	Panicle Color % Red	Panicle Orientation % Nodding	Panicle Shape % Narrow	Panicle Type % Open	Branch Lower Whorl =1	Branch Lower Whorl =2	Branch Lower Whorl =3	Branch Lower Whorl =4	Branch Lower Whorl =5 or more	Panicle Branch Pubescence % Present
(BT:1/16/07) Lustrous <TL2>	3	67	30	100	28	0	30	70	8	80	10	2	0	0
Shademaster	8	53	38	98	63	10	30	70	17	60	13	7	4	8
Boreal	10	85	5	95	38	10	13	87	18	60	18	3	0	12

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 3B 2003Additional Morphological Measurements of the Panicle

Cultivar	Growth Habit at Anthesis % Erect	Growth Habit at Anthesis % Semi-Erect	Growth Habit at Anthesis % Prostrate	Anther Color % Yellow	Panicle Color % Red	Panicle Orientation % Nodding	Panicle Shape % Narrow	Panicle Type % Open	Branch Lower Whorl =1	Branch Lower Whorl =2	Branch Lower Whorl =3	Branch Lower Whorl =4	Branch Lower Whorl =5 or more	Panicle Branch Pubescence % Present
(BT:1/16/07) Lustrous <TL2>	3	43	53	98	17	0	15	85	2	82	17	0	0	5
Shademaster	2	27	72	100	18	5	18	82	22	60	17	0	2	8
Boreal	10	65	25	90	13	32	5	95	15	63	8	10	3	27

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

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Table 4A

2002 Additional Morphological Measurements of the Leaf Blade and Seed

Cultivar	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Sheath Auricle Hairs % Short	Leaf Sheath Auricle Hairs % Long	Node Color % Distinct	Lemma Hairs % Present	Palea Hairs % Present	Glume Color % Purple	Rhizomes % Absent
(BT:1/16/07) Lustrous <TL2>	85	13	2	13	2	3	43	92	100	27	52
Shademaster	92	8	0	23	3	2	43	72	100	40	62
Boreal	82	18	0	30	5	0	55	82	100	32	57

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 4B

2003 Additional Morphological Measurements of the Leaf Blade and Seed

Cultivar	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Sheath Auricle Hairs % Short	Leaf Sheath Auricle Hairs % Long	Node Color % Distinct	Lemma Hairs % Present	Palea Hairs % Present	Glume Color % Purple	Rhizomes % Absent
(BT:1/16/07) Lustrous <TL2>	83	10	7	93	0	0	15	100	98	13	2
Shademaster	80	20	0	92	0	0	3	100	100	27	4
Boreal	80	17	3	98	0	0	13	100	100	27	0

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 5A 2002 Additional Morphological Measurements

Cultivar	Leaf Blade Glaucosity % Glaucous	Leaf Blade Anthocyanin % Purple	Leaf Blade Surface Hairs % Present	Leaf Sheath Surface Hairs % Glabrous	Leaf Blade Margin Folding % Closed	Leaf Sheath Collar Hairs % Glabrous	Leaf Sheath Margins % Open	Lemma Awns % Present	Seedling Anthocyanin % Present	Seed Weight mg per 1,000 Seeds
(BT:1/16/07) Lustrous <TL2>	0	0	0	90	100	10	100	100	6	1513
Shademaster	0	0	0	87	100	10	100	100	3	1290
Boreal	0	0	0	78	100	95	100	100	2	1442

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

Table 5B 2003 Additional Morphological Measurements

Cultivar	Leaf Blade Glaucosity % Glaucous	Leaf Blade Anthocyanin % Purple	Leaf Blade Surface Hairs % Present	Leaf Sheath Surface Hairs % Glabrous	Leaf Blade Margin Folding % Closed	Leaf Sheath Collar Hairs % Glabrous	Leaf Sheath Margins % Open	Lemma Awns % Present	Seedling Anthocyanin % Present	Seed Weight mg per 1,000 Seeds
(BT:1/16/07) Lustrous <TL2>	0	0	0	95	98	98	97	100	7	1526
Shademaster	0	0	0	98	100	85	95	100	2	1326
Boreal	0	0	0	97	100	95	98	100	2	1446

■ Cultivar under evaluation
Measurements taken in Albany, Oregon
3 reps; 20 plants/rep = 60 data points

20040128

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Rutgers, The State University of New Jersey	TL2	Lustrous

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
Foran Hall Plant Biology and Pathology 59 Dudley Road New Burnswick, NJ 08901	(732) 932-9711	(732) 932-9441

7. PVPO NUMBER #200400128

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** ☑ **YES** ☐ **NO**

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** ☑ **YES** ☐ **NO**

10. Is the applicant the original owner? ☑ **YES** ☐ **NO** **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
☑ **YES** ☐ **NO** **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
☑ **YES** ☐ **NO** **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

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